

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Solid Waste Program
P.O. Box 200901
1520 E. Sixth Avenue
Helena, MT 59620-0901

ENVIRONMENTAL ASSESSMENT (EA)

Division/Bureau:

Permitting and Compliance Division, Waste and Underground Tank Management Bureau, Solid Waste Section.

Project or Application:

The Sunburst Restoration Fund (SRF) submitted a solid waste license application for a Soil Treatment Facility (landfarm) to the Montana Department of Environmental Quality (Department). The proposed landfarm will be used solely for the remediation of contaminated soils associated with the Sunburst Restoration Project (SRP). The proposed 86-acre facility will utilize only 60-acres for the active landfarming of the gasoline-contaminated soils that will be removed from the restoration project in the town of Sunburst. Soils in the area were contaminated by gasoline leaks from the former Texaco Sunburst Works Refinery. The maximum projected volume of gasoline-contaminated soil under treatment will be 50,000 yds³. The estimated life of the proposed landfarm facility is five (5) years.

Description of Project:

Site Location, Geography, and Climate: The proposed landfarm facility is located on Simmes Ranch, Inc. property, approximately one mile northwest of the town of Sunburst, in Toole County, Montana. The proposed landfarm facility is situated in a rural agricultural setting on Loop Road in the N ½ of the SE ¼ of Section 12, T36N, R3W (Figure 1). The site has no zoning restrictions and is surrounded primarily by agricultural property currently used for either grazing or crop production. Toole County owns a 106-acre parcel adjacent to the eastern edge of the site, a portion of which is used as a rural airstrip.

The site is located within the Great Plains physiographic province. The general area is characterized by level to gently rolling continental glacial till plains and rolling hills. Steep slopes border some of the larger rivers. The topography at the site slopes gently to the north-northeast at an approximate 3% slope. Site elevations range from approximately 3,410-ft above mean sea level (msl) in the southwest to approximately 3,375-ft msl in the northeast. There are no surface water features within the 86-acre parcel. The southern upland areas drain to and end in a coulee on property south of the site.

The climate is cold continental, with dry winters and warm summers. Precipitation averages 10- to 15-inches per year, with maximum precipitation events occurring during the spring and early summer.

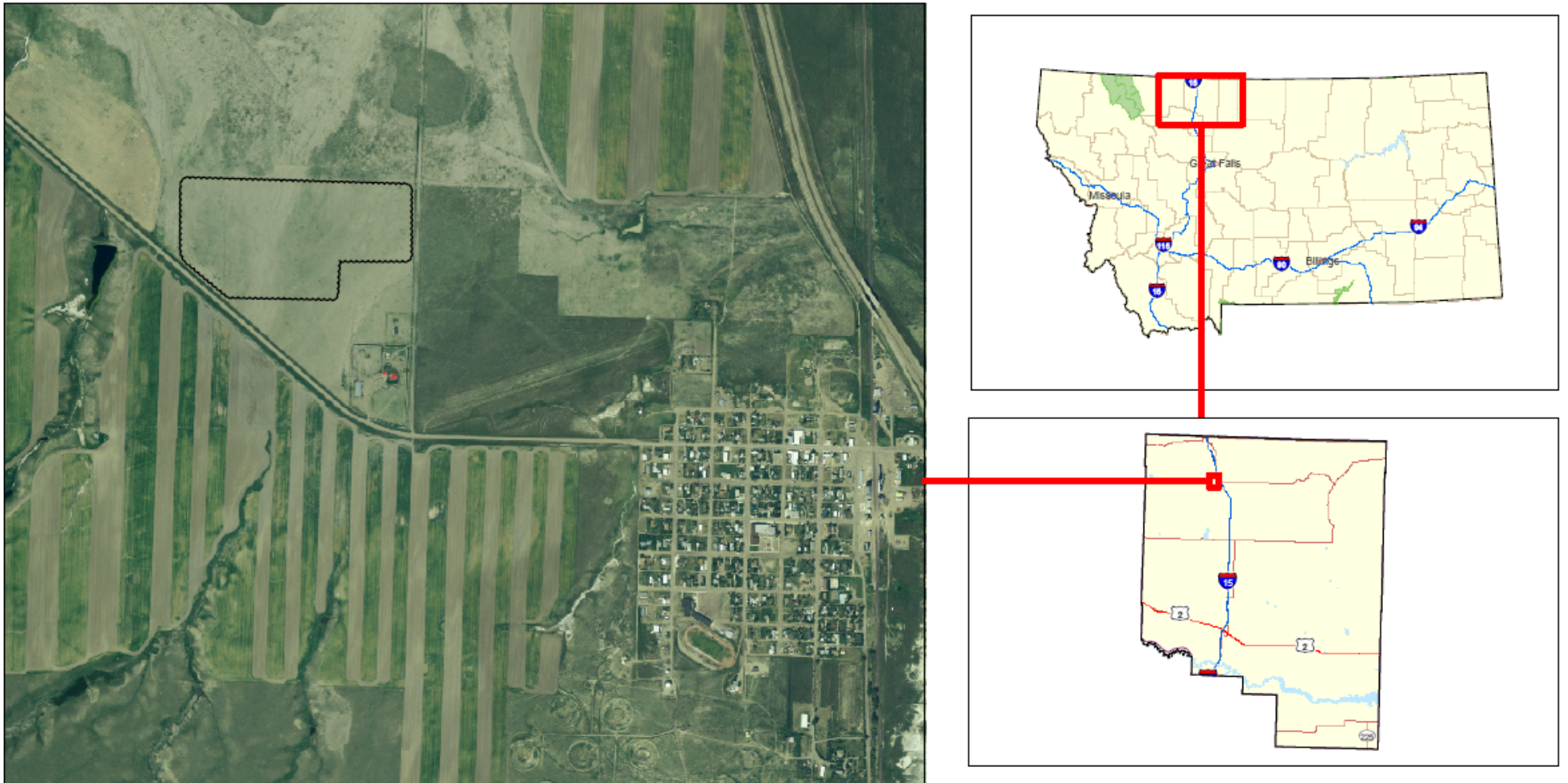


Figure 1 – Site Location Map (Source: June, 2008, Sunburst Landfarm Permit Application, Water & Environmental Technologies, PC)

Operation and Maintenance Plan:

Personnel: The SRF will be responsible for the administration and operation of the landfarm facility. During active soil placement, the site will be supervised by the Water and Environmental Technologies, PC (W.E.T.) field engineers assigned to the project. The W.E.T. field engineer will supervise the excavation, hauling, and placement of the gasoline-contaminated soil. Soils characterized as unacceptable during the initial sampling effort will be excluded from this phase of the soil cleanup effort. The SRF will utilize contracted personnel for the hauling and placement of contaminated soils from the SRP sites to the landfarm. When the facility is not actively accepting soils for placement in the landfarm, the landowner will conduct at least monthly site inspections and perform the soil tilling operations.

Operating Schedule: The landfarm facility will be used solely for the SRP and will not be open to the public. Therefore, it will only be open as needed for soil placement and active landfarming activities.

Site Access and Control: The entire 86-acre parcel is surrounded by a three strand barbed wire fence. There is currently one gate located in the southwest corner of the property. This gate will not be used during the operation of the facility and will be kept locked. A new site access gate will be installed further east of this current gate for the ingress and egress of trucks and equipment. This gate will be closed and locked when personnel are not on site. Three “no-trespassing, authorized personnel only” signs will be placed on the perimeter of the fence.

Source, Type, and Amount of Waste: Only gasoline-contaminated soil removed from specific areas of the SRP will be accepted for treatment at the facility. The proposed facility has an estimated life of 5-years and an overall projected maximum volume of 50,000 yds³ of contaminated soil that will be accepted for treatment.

Landfarm Operations: The 86-acre landfarm site will contain only one 60-acre treatment cell. The 60-acre treatment cell has been divided into 15 four-acre grids (Figure 2). Landfarming will begin in the northeast corner of the site, in Grid 5, and will proceed in a southeasterly direction. The contaminated soil will be delivered to the site in belly-dump trucks, dumped in designated areas as directed by the W.E.T. field engineer on-site, and will be spread into a six-inch lift using a bulldozer or scraper.

The SRF will install a weather station on-site to monitor wind speed and direction. Spreading and tilling of the contaminated soils will occur only when the prevailing wind speeds are less than 40-miles per hour and the prevailing winds are from a southerly direction. Neither spreading nor tilling activities will occur any time winds are blowing in a southeasterly direction.

The landowner will till the contaminated soil using a tractor with a disc or plow to facilitate volatilization of the organic contaminants. Tilling will occur twice during the first month after application and then monthly thereafter. Tilling will be performed during the months of April through October, at a minimum, and will occur in varying directions to disrupt compaction patterns and prevent hardpan development.



Figure 2 – Site Layout Map (Source: June 2008, Sunburst Landfarm Permit Application, Water and Environmental Technologies, PC)

It may be necessary to add water to the soils under treatment to increase the soil moisture content and to control dust during placement and tilling activities at the site. A city water line, currently used for stockwater, is located on the property. If necessary, the line may be spigoted and used for this purpose. In addition, water may be obtained from the town of Sunburst water supply off-site and brought in by tanker truck. Water will be added at a rate that prevents runoff from the active treatment areas.

Stormwater Control: Prior to the placement of contaminated soil on the landfarm site for treatment, a sufficient volume of soils will be excavated to a depth no greater than 6-inches for the construction of a berm to prevent stormwater runoff and runoff from the active treatment areas. The 3-ft high berm will surround the perimeter of the 60-acre landfarm cell and will be seeded with an NRCS-recommended and Department-approved seed mix of native grasses to prevent erosion. Only enough topsoil will be excavated from the landfarm site to construct the berm. In addition to the berm, a stormwater collection pond, designed for the collection of stormwater from a 100-year, 24-hour storm event, will be constructed in the northeast corner of the property (see Figure 2). All stormwater drainage on the landfarm site will flow to this collection pond. Stormwater from the landfarm operation will not discharge to state waters. Excavation of topsoil beyond what is needed for the construction of the berm and the active treatment areas will be minimized so that existing vegetation will continue to impede flow, erosion, and sediment transport that may occur during storm events.

Soil Monitoring: Samples of the soils under treatment will be collected during the months of April, July, and October. The samples will be analyzed for Total Petroleum Hydrocarbons (TPH) by EPA Method 8015, Benzene, Toluene, Ethylbenzene, and Xylene (BTEX) by EPA Method 8020/8060, and Total Metals by EPA Method 3050. One composite sample will be collected from five (5) sub-samples per four-acre grid (Figure 2).

Samples of the below treatment zone (BTZ) soils within the active treatment area will be collected annually during the month of October. Samples will be collected from 1-ft to 3-ft BTZ and analyzed for TPH, BTEX, and Total Metals using the above referenced EPA methods. One composite sample will be collected from five (5) sub-samples per four-acre grid (Figure 2).

The SRF will submit copies of all analytical results, including QA/QC data, to the Department for review within 90-days of each sampling event.

Groundwater Monitoring: Groundwater monitoring will be performed at this site. Three groundwater monitoring wells, one upgradient and two downgradient, have been installed and are shown in Figure 2. Groundwater monitoring, consisting of the measurement of static water levels and the collection of groundwater samples, will be conducted three times during the first year of facility operation and semi-annually thereafter. The groundwater samples will be analyzed for TPH, BTEX, Total Metals, and Sulfide. Groundwater monitoring results will be submitted to the Department for review within 90-days of each sampling event and will include a copy of the field logs, laboratory analytical results including the laboratory QA/QC data, chain-of-custody forms, and a groundwater contour map. In addition, any detection of constituents above background levels will be evaluated in accordance with the requirements of Administrative Rules of Montana

(ARM) Section 17.50.710. A discussion of the site specific hydrogeology is provided in the Appendix.

Contingency Planning: The only waste stream that will be accepted at the facility will be the contaminated soils generated from the SRP. In the event that unacceptable wastes are discovered at the landfarm site, the SRF will segregate and properly dispose of the non-approved wastes, document the activity in the field logs, and submit a report on the discovery, segregation, and final disposition of the unacceptable waste to the Department for review. This information will also be incorporated into the facility file. In the event of a site emergency, site employees will be provided with appropriate training and safety equipment to provide on-site response in advance of arrival of emergency services personnel.

Closure: The goal of the SRP is to remediate the gasoline-contaminated soil to below detection levels, cover the treatment cell with soil, and revegetate the site thereby returning the property to productive use. The soils under treatment will not be considered totally remediated until all of the following conditions are met:

- TPH concentrations are less than 100 ppm;
- BTEX concentrations are less 10 ppm; and,
- Benzene concentrations are less than 0.5 ppm.

Composite samples of the soils under treatment will be collected to confirm the attainment of the above-listed targets. To prevent the omission of 'hot spots', one sample, composited from five (5) sub-samples, will be collected from each 4-acre grid. These samples will be analyzed for TPH, BTEX, and Total Metals. When remediation levels have been achieved, landfarm closure will proceed only after the Department has been provided written notification of the intent to close. Closure activities will include the removal of remediated soils for other Department-approved end uses, site regarding, and the placement of at least one-foot of final cover over those areas where the treated soils will remain. Post-closure monitoring of the reclaimed site for vegetative success, weed control, and BTZ soils and groundwater will occur for a period of at least two (2) years after closure. Results of all monitoring activities will be submitted to the Department in report form no more than 90-days after the monitoring event. The Department will not approve final closure until all post-closure monitoring requirements have been met and the SRF notifies the Department, in writing, that post-closure care is complete.

Benefits and Purpose of the Proposal:

The main objective of the proposal is to provide for the construction of a soil treatment facility while also protecting human health and the environment. The proposed soil treatment facility will allow for the treatment of gasoline-contaminated soil excavated from the town of Sunburst in association with the Sunburst Restoration Project. The estimated life of the proposed landfarm facility is five (5) years. The maximum projected volume of gasoline-contaminated soil under treatment will be 50,000 yds³.

Description and analysis of reasonable alternatives whenever alternatives are reasonably available and prudent to consider

The Department considered two alternatives in the preparation of this EA:

Alternative A. Approve the license as proposed by the applicant. Several factors support the viability of this option:

1. Landfarming is an effective and viable method for the treatment of petroleum-contaminated soils.
2. The proposed site will remediate up to 50,000 yds³ of petroleum-contaminated soils over a five-year period.
3. The site is close to the source of the contaminated soils, so the overall cost of transportation and disposal will be lower than the costs associated with the transportation and disposal to the nearest solid waste management facilities in Shelby. The resources saved by landfarming the contaminated soils close to the source may then be used to support other phases of the cleanup effort associated with the SRP.
4. The remediation of contaminated soils by landfarming conserves valuable landfill space and creates soils that are once again capable of supporting vegetative growth.

Alternative B. Deny the license as proposed by the applicant — the "no action alternative". If this alternative were chosen, the applicant could:

1. The contaminated soils will be removed and transported to a licensed solid waste management facility for treatment and/or disposal. The nearest facility that may accept this waste is located in Shelby. This alternative will create additional transportation and disposal costs to the applicant, negate site preparation and operational costs expended to date, and remove the remediated soils from production if the soils are landfilled.

In consideration of these alternatives, the Department reviewed the site-specific documents submitted with the license application. Based upon the information provided, and Department research conducted on the area surrounding the proposed soil treatment facility, the potential environmental impacts of Alternative A were evaluated for the proposed project. The results of the Department's evaluation are summarized in Tables I and II. A discussion of the site-specific impacts for Alternative A are provided in the Appendix.

A listing and appropriate evaluation of mitigation, stipulations and other controls enforceable by the agency or another government agency

The proposed soil treatment facility must meet the minimum requirements of the Montana Solid Waste Management Act and the Administrative Rules of Montana governing solid waste management. The required approvals are granted by the Department after the appropriate review of complete submittals, unless specified otherwise.

If the facility is licensed, the licensee (Sunburst Restoration Fund) shall meet the following license conditions:

1. Sampling of the contaminated soil under treatment will be conducted three times per calendar year, typically during the months of April, July, and October.
2. Soil sampling of the below treatment zone (BTZ) will be conducted once per year, during the month of October. One sample will be composited from five (5) sub-samples per 4-acre grid.
3. Groundwater monitoring will be performed three times during the first year, and semi-annually thereafter.
4. No construction or disturbance of areas more than one acre without first notifying the Department and receiving written approval.
5. No release of storm water from the stormwater collection pond without first notifying the Department and receiving written approval.
6. Closure activities will not commence until formal written notification of the intent to close has been submitted to the Department.
7. Final closure approval will not be granted until all requirements for the remediation of contaminated soils have been met and the facility has completed at least two (2) years of post-closure monitoring.
8. Compliance with appropriate provisions of the federal Air and Clean Water Acts and associated regulations, as well as applicable County Ordinances.

Recommendation

The Montana Department of Environmental Quality is requesting input from the public regarding this proposal. If there are no adverse public comments identifying environmental problems or significant impacts that have not been addressed in the EA, the Department intends to issue a license for the proposed SRF Class II Soil Treatment Facility.

If an EIS is needed, and if appropriate, explain the reasons for preparing the EA

The Department finds that an Environmental Assessment provides the appropriate level of analysis and that an Environmental Impact Statement is not needed.

If an EIS is not required, explain why the EA is an appropriate level of analysis:

The Department finds that construction and operation of the proposed SRF Soil Treatment Facility will not significantly affect the quality of the physical and human environment. Potential impacts to surface water resources, terrestrial and aquatic life, vegetation, ground water and other aspects of the physical and human environment are expected to be minor. An Environmental Assessment is an adequate document to address potential impacts of the proposed soil treatment facility.

Other groups or agencies contacted or which may have overlapping jurisdiction

Town of Sunburst

Toole County

Montana Natural Heritage Program

Montana Historical Society

Individuals or groups contributing to this EA

Water and Environmental Technologies, PC (W.E.T.), Butte, MT

EA prepared by

Renai Hill, Joe Blaine, and Mary Louise Hendrickson

DEQ Permitting and Compliance Division

Waste and Underground Tank Management Bureau

Solid Waste Program

Date

October 22, 2008

TABLE I. Potential Impacts on the Physical Environment

[See appendix as indicated for a specific resource analysis]

RESOURCE	LEVEL OF IMPACT					
	Major	Moderate	Minor	None	Unknown	Appendix
1. Terrestrial and Aquatic Life and Habitat			X			X
2. Water Quality, Quantity, and Distribution			X			X
3. Geology and Soil Quality, Stability and Moisture			X			X
4. Vegetation Cover, Quantity and Quality			X			X
5. Aesthetics			X			X
6. Air Quality			X			X
7. Unique, Endangered, Fragile or Limited Environmental Resources					X	X
8. Demands on Environmental Resources of Water, Air, and Energy			X			X
9. Historical and Archaeological Sites					X	X

CUMULATIVE AND SECONDARY IMPACTS — The cumulative impacts from the proposed Soil Treatment Facility are minor. Development and population surrounding the proposed site are sparse. Natural site conditions combined with site operating requirements and controls would eliminate any impact from the landfarming activity. There are no recognized secondary impacts.

TABLE II. Potential Impacts on the Human Environment

[See appendix as indicated for a specific resource analysis]

RESOURCE	LEVEL OF IMPACT					
	Major	Moderate	Minor	None	Unknown	Appendix
1. Social Structure and Mores				X		
2. Cultural Uniqueness and Diversity				X		
3. Local and State Tax Base and Tax Revenue				X		
4. Agricultural or Industrial Production			X			X
5. Human Health				X		X
6. Access to and Quality of Recreational and Wilderness Activities				X		
7. Quantity and Distribution of Employment			X			X
8. Distribution of Population				X		
9. Demands for Government Services			X			X
10. Industrial and Commercial Activity			X			X
11. Locally Adopted Environmental Plans and Goals				X		

CUMULATIVE AND SECONDARY IMPACTS — The cumulative impacts from the proposed licensure of Soil Treatment Facility are minor. Development and population surrounding the proposed site are sparse. The operation of the proposed landfarm will result in the removal of sparsely vegetated grazing land from production. However, the property will be reseeded with a mixture of native grasses and returned to grazing land after the landfarming activities have been completed and vegetation has been established. There are no recognized secondary impacts.

APPENDIX
COMMENTS ON THE POTENTIAL IMPACTS
OF THE PROPOSED SOIL TREATMENT FACILITY

I. POTENTIAL IMPACTS ON THE PHYSICAL ENVIRONMENT

1. Terrestrial and Aquatic Life and Habitats

There are no wetlands or permanent surface water bodies located on proposed landfarm site. With no continuously active aquatic systems within the boundary of the proposed site, there are no recognized impacts to aquatic life and habitats in the area.

The proposed landfarm site is surrounded predominantly by grassy rangeland and minor cultivated cropland. Wildlife forage and habitat at the site is typical of the native grassland region found on the open rolling plains adjacent to the upland areas. Because of the limited availability of surface water supplies, land use is dominated by livestock grazing on rangeland. Most terrestrial species currently inhabiting the area would be displaced by the landfarm during the period of operation. Due to the extremely sparse development and human population surrounding the proposed site, however, there is adequate acreage of similar habitat available in the vicinity to accommodate any terrestrial or avian species that may be forced to relocate.

2. Water Quality, Quantity and Distribution.

Surface Water

There are no known wetlands or permanent surface water bodies located on proposed landfarm site. The low to medium density drainage patterns in the area are characteristic of the better drained glacial till. Surface drainages are located south of the proposed landfarm site, but are characterized as ephemeral streams. There are no recognized impacts to surface water in the area.

Ground Water

There are no known or suspected recharge areas near the proposed landfarm site. Groundwater in the area is generally of very poor quality and is not used for domestic or livestock purposes. The SRF installed three groundwater monitoring wells on the proposed landfarm site. Groundwater beneath the site is encountered within the glacial deposits and weathered shale and found at depths ranging from approximately 14-ft to 18-ft below ground surface (bgs). Groundwater samples have been collected from these wells for water quality analysis. The following table provides the results of the water quality analyses performed on those samples collected from the on-site monitoring wells:

<i>Analysis</i>	<i>Monitoring Well</i>		
	<i>LW1</i>	<i>LW2</i>	<i>LW3</i>
Ph	7.7	7.8	7.7
Conductivity	24,200 umhos/cm	21,000 umhos/cm	22,800 umhos/cm
TDS	20,400 mg/L	14,700 mg/L	18,600 mg/L
Alkalinity	860 mg/L	640 mg/L	610 mg/L
Hardness	7,740 mg/L	2,800 mg/L	6,850 mg/L
Sulfate	15,000 mg/L	11,000 mg/L	14,000 mg/L

The above noted analytical results indicate that the groundwater beneath the site is classified as Class IV groundwater and is therefore unsuitable for public or private drinking water supplies, irrigation, or livestock watering. One private well identified for livestock use is located northwest of the proposed landfarm. The well is drilled to a depth of 686 feet, however according to the well owner, the well is no longer used due to inadequate water production.

The town of Sunburst obtains its water from wells that are located more than 8 miles west of the proposed landfarm site. Due to the lack of adequate production and the very poor quality of the groundwater beneath the site, impacts to groundwater in the area from the operation of the landfarm are anticipated to be minor.

3. Geology and Soil Quality, Stability and Moisture.

Bedrock in the area consists of the Kevin Shale, a member of the Cretaceous-age Marias River Formation. The Kevin Shale is identified as a medium, dark-grey to brown-gray shale that contains visible calcite crystals on shale parting with thin bentonite beds and gray limestone concretions. The Kevin Shale is approximately 560-feet thick in the Sunburst area. The top 25-ft of shale is fractured and weathered, and grades into more competent shale with depth. The Kevin Shale is overlain by glacial till consisting of silt and clay with lenses of silty sand and/or gravel.

Soils in the area include frigid Borolls, Ustochrepts, Natriborolls, and Orthents with some Fluvents along the rivers. These soils are generally deep and range in texture from loamy to clayey. Soils at the site are dominated by the Vanda silty clay and the Nobe clay, are typically deep and stable, with permeabilities ranging from 1.77×10^{-6} cm/sec to 1.51×10^{-5} cm/sec, and have a generally low available water capacity. The soil types on site consist of the following:

Soil Type	% of soil present on-site	Depth	Drainage	Permeability	Available Water Capacity	Runoff	Erosion Hazard
Ferd loam, 0 to 4 percent slopes	2.8	deep	Well-drained	Moderate	High	Medium	Severe
Vanda silty clay, 0 to 4 percent slopes	55.5	deep	Well-drained	Slow	Low	Rapid	Moderate
Nobe clay, 0 to 4 percent slopes	41.3	deep	Moderately well drained	Slow	Low	Medium	Moderate
Joplin-Telstad clay loams, 2 to 8 percent slopes	0.5	deep	Well-drained	Moderate	High	Medium	Moderate

Based upon the boring logs from the monitoring well drilling, the subsurface at the proposed landfarm site consists of clayey silt and/or silty clay layers with minor fine sand and gravel lenses. The clayey silt and clay layers vary in thickness from 1.0 to 6.0 feet, and alternate to the terminal drilling depth of 25 feet below ground surface. Impacts to the geology and soils from the operation of the landfarm will be minor. The subsurface is generally slowly permeable. In

addition, to topsoil removed for construction of the berm around the landfarm cell will be graded and replaced upon closure of the facility.

4. Vegetation Cover, Quantity and Quality

The proposed landfarm site is part of the Northwestern Glaciated Plains ecoregion within the Great Plains ecosystem. Because vegetation is sparse, much soil is exposed. Surface vegetation and topsoil will be removed to facilitate the construction of a berm around the active landfarm cell. Vegetation in the area is strongly associated with available soil moisture and soil type due to uniform climatic conditions across this community. The grassland vegetation consists primarily of blue grama, bluebunch wheatgrass, green needlegrass, needleandthread, western wheatgrass, and basin wildrye. The grassland habitat at this site is not unique to the area. Thus, the loss of the proposed landfarm acreage as flora habitat would not be considered critical, as it is not a unique or rare plant environment. Due to the extremely sparse development and human population surrounding the proposed site, there is adequate acreage of similar habitat available in the vicinity to preserve continuity of this ecosystem.

5. Aesthetics

The proposed soil treatment facility will likely have only minor, if any, impact on aesthetics. The proposed site is located outside the town of Sunburst and is adjacent to agricultural lands.

6. Air Quality

Air quality concerns related to soil treatment facilities are typically associated with increased dust emissions from the offloading, spreading, and tilling of the contaminated soils. The nearest receptor is a residence located off-site toward the southeast corner of the property. The SRF will install a weather station to monitor wind speed and direction. Landfarming activities will occur only when prevailing winds are measured at 40-mph or less and when the prevailing wind direction is from the south. Water will be used for dust control as needed.

7. Unique, Endangered, Fragile or Limited Environmental Resources

The effects on these resources are not known because the applicant did not submit information on unique, endangered, fragile, or limited environmental resources within the proposed site boundary. However, a search of the Montana Natural Heritage Program website indicates the Black-footed Ferret is listed as endangered and the Bald Eagle is listed as threatened in the general area of Toole County. No intensive site survey was conducted to study the presence of sensitive, unique, endangered, or fragile species within or adjacent to the proposed expansion area; therefore the impact to these resources remains unknown. Due to the extremely sparse development and human population surrounding the proposed site, there is adequate acreage of similar habitat available in the vicinity to accommodate any terrestrial or avian species that may be forced to relocate.

8. Demands on Environmental Resources of Water, Air and Energy

Energy demands related to the operation of the landfarm are primarily due to the hauling, spreading, and tilling operations required for remediation of the contaminated soils. Lesser demands are from excavation and landfarm construction. Construction and operation of the

proposed landfarm will cause an unavoidable increase in fuel use. These energy demands are not expected to impose excessive burdens on environmental resources.

9. Historical and Archaeological Sites

The effects on these resources are not known because the applicant did not submit information on historical or archaeological sites within the proposed site boundary.

II. POTENTIAL IMPACTS ON HUMAN ENVIRONMENT

4. Agricultural and Industrial Production

The area proposed for the landfarm expansion has been used historically as pasture land. Operation of the facility will have a very minor effect on agricultural production by elimination of the 86 acres encompassed by the proposed facility boundary for grazing. The possibility of using the vegetated cover of the landfarm for grazing land will be returned after closure activities are completed and the vegetation becomes well established.

5. Human Health

The most common potential for impacts to human health from the operation of the proposed soil treatment facility arise from the generation of dust during site operation and the potential release of contaminants to surface or ground water. The nearest receptor is a residence located off-site toward the southeast corner of the property. Dust control will be required to protect this residence and the facility operators. The SRF will install a weather station to monitor wind speed and direction. Landfarming activities will occur only when prevailing winds are measured at 40-mph or less and when the prevailing wind direction is from the south. Water will be used for dust control as needed. The criteria for the construction of the berm around the treatment cell and stormwater collection pond protects the surface water. The required annual BTZ and groundwater sampling protects the groundwater. Consequently there will be no impacts to human health.

7. Quantity and distribution of employment

There could be a very minor increase in local employment due to the need for contractors and associated support during landfarm construction and the initial phase of site development. There may be additional phases of development where additional soils identified as acceptable for remediation by landfarming may be transported to the site for placement and treatment.

9. Demands for Governmental Services

The potential impact of the proposed facility is anticipated to be minor. Department personnel must spend time reviewing the proposal and licensing the soil treatment facility. The Department will perform regular inspections of the site. During the construction phases, there will be slightly increased traffic on roads leading to the soil treatment facility, but the impact is expected to be minor.

10. Industrial and Commercial Activity

Construction of the proposed facility will cause a minor increase in the industrial activity of the area during construction due to the need for contractors and associated materials and machinery. Since the immediately surrounding area is undeveloped rural land with no commercial or industrial activity other than grazing and farming, no additional secondary impact to industrial or commercial activity of the area is expected.

REFERENCES

Sunburst Restoration Group, June 2008, Solid Waste Management System License Application: Prepared by Water and Environmental Technologies, Butte, Montana

Montana Natural Resources Information System (NRIS), 2008, Montana Natural Heritage Program, website <http://nhp.nris.mt.gov>

State of Montana, 2005, Montana's Comprehensive Fish and Wildlife Conservation Strategy: Department of Fish, Wildlife, and Parks.